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Hells Canyon Draft

EA-93-171

ana Department
of
Fish, Wildlife & Parks

P.O. Box 1137
Townsend, MT 59644
December 20, 1993

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Pat Humphrey, Twin Bridges
George Grant Chapter of Trout Unlimited, Butte
Jefferson Headwaters Chapter of Trout Unlimited, Twin Bridges
Jefferson Valley Sportsmen Association, Whitehall
Deerlodge National Forest, Jefferson Ranger District, Whitehall

Ladies and Gentlemen:

The enclosed Environmental Assessment (EA) has been prepared for the proposed Hells Canyon Pipeline and Water Lease Project. The proposed project will be funded by leasing "salvaged" water rights, and by using DFWP grant monies made available under the River Restoration Act.

Any questions or comments regarding this proposed project should be addressed to the undersigned by January 2~~1~~8, 1993.

STATE DOCUMENTS

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Sincerely,

Ron Spoon
Fisheries Biologist

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EA-93-17

DEPARTMENT OF FISH, WILDLIFE AND PARKS

ENVIRONMENTAL ASSESSMENT

Project Title Hells Canyon Creek Pipeline and Water Lease

Division/Bureau Fisheries/Habitat Protection Bureau

Program River Restoration

Description of Project The project involves replacement of a flood irrigation diversion and canal system with a screened headgate and pipeline sprinkler system on Hells Canyon Creek. The project will result in water savings and the improvement in survival of fry and adult trout. The project is intended to improve the wild rainbow trout fishery of the Jefferson River.

POTENTIAL IMPACT ON PHYSICAL ENVIRONMENT

	MAJOR	MODERATE	MINOR	NONE	UNKNOWN	COMMENTS ON ATTACHED PAGES
1. Terrestrial & aquatic life and habitats			X			X
2. Water quality, quantity & distribution			X			X
3. Geology & soil quality, stability & moisture			X			X
4. Vegetation cover, quantity & quality			X			X
5. Aesthetics			X			X
6. Air quality				X		
7. Unique, endangered, fragile, or limited environmental resources				X		
8. Demands on environmental resources of land, water, air & energy				X		
9. Historical & archaeological sites					X	

POTENTIAL IMPACTS ON HUMAN ENVIRONMENT

	MAJOR	MODERATE	MINOR	NONE	UNKNOWN	COMMENTS ON ATTACHED PAGES
1. Social structures & mores				X		
2. Cultural uniqueness & diversity				X		
3. Local & state tax base & tax revenue				X		
4. Agricultural or industrial production			X			X
5. Human health				X		
6. Quantity & distribution of community & personal income				X		
7. Access to & quality of recreational and wilderness activities				X		
8. Quantity & distribution of employment				X		
9. Distribution & density of population & housing				X		
10. Demands for government services				X		
11. Industrial & commercial activity				X		
12. Demands for energy				X		
13. Locally adopted environmental plans & goals				X		
14. Transportation networks & traffic flows				X		

Other groups or agencies contacted or which may have overlapping jurisdiction None

Individuals or groups contributing to this EA State Hist. Pres. Office

Recommendation concerning preparation of EIS EIS not required

EA prepared by : Ron Spoon
Date: December 17, 1993

Montana Department of Fish, Wildlife and Parks
Fisheries Division
Environmental Assessment

Hells Canyon Creek Pipeline and Water Leasing Project

General Purpose:

Hells Canyon Creek was selected as a stream where improved flows and reduced loss of fish to an irrigation canal would improve the stream's ability to provide spawning and rearing habitat for trout resident to the Jefferson River. The three water users on Hells Canyon Creek will participate in a ASCS-sponsored project to replace the present inefficient ditch system with a pipeline and convert to a gravity sprinkler system for irrigation of crops. The more efficient system will result in water savings and reduced fish loss from the stream.

The 1989 Montana Legislature enacted a statute (87-1-255 through 259, MCA) which directs the Department to administer a River Restoration Program. The program involves physical projects to improve rivers and their associated lands in order to conserve and enhance fish and wildlife habitat. The legislature established an earmarked funding account to ensure this function would be accomplished.

Montana's water leasing statute (85-2-436 MCA) was enacted by the 1989 Legislature as HB 707. The issue arose primarily as a result of the 1988 drought's impact on stream fisheries. The purpose of the legislation is to study the feasibility of leasing existing water rights to enhance stream flows for fisheries. It is a pilot program that terminates in 1999 and allows the Department of Fish, Wildlife and Parks to lease water rights from willing individuals who have traditionally used the water for diversionary consumptive purposes.

I. Location of the Project:

Hells Canyon Creek is a small stream that drains the Highland Mountain range and flows southeasterly for 10.5 miles before discharging into the Jefferson River near the town of Twin Bridges. The proposed pipeline and intake structure is located about 0.5 miles upstream from the mouth of Hells Canyon Creek.

II. Need for the Project

Under the Department's long range Program, Goal A, one Fisheries Division objective is to "protect existing aquatic habitat and improve degraded stream systems for the welfare of healthy fish populations and other wildlife species and for public enjoyment and use." Both water leasing and the River Restoration Program are available tools to help achieve this objective.

Hells Canyon Creek is one of only two known spawning tributaries for the rainbow trout population of the Jefferson River. The river's rainbow trout are now managed as a catch-and-release fishery due to their low numbers. Once spawning is completed in Hells Canyon Creek, spent spawners returning to the river and out-migrating young-of-the-year frequently enter the creek's one active irrigation diversion, located at about stream mile 0.5. The ditch also removes a large portion to the late summer flow, diminishing the creek's capacity to rear rainbow trout recruits and hindering their passage to the river.

The primary anticipated fishery benefit of this project is the improvement of the wild rainbow trout population in the Jefferson River. This would be accomplished by replacing the one active diversion structure with a water intake structure designed to reduce the loss of out-migrating trout fry and spawners. In 1992, a low water year, approximately 36% (9,579) of the total rainbow trout fry production in Hells Canyon Creek was lost to the ditch. In 1993, a year of extremely high summer flows when proportionately less water was diverted from the stream, 15% (1,208) of the rainbow fry production was lost.

Another important benefit of this project is the enhancement of stream flows in lower Hells Canyon Creek. The added flows will improve the rearing potential of the lower stream as well as provide better passage for out-migrating fish. During low water years like 1992, existing water rights are sufficient to completely dewater the lower 0.5 miles of Hells Canyon Creek. Water will be "salvaged" with the more efficient pipeline system and the leasing agreement will eliminate the possibility of complete dewatering of the stream.

Trout populations in Montana's rivers are almost completely dependent upon trout produced through natural reproduction. Fishery benefits from this project are primarily directed towards improving spawning and rearing success for rainbow trout resident to the Jefferson River. An increase in the wild rainbow trout population of the Jefferson River is the ultimate goal of the project. However, resident trout fisheries in Hells Canyon Creek, including brown trout, brook trout, and rainbow/cutthroat trout hybrids may also benefit from the proposed project.

III. Scope of Project

The three water users on Hells canyon Creek will participate in an ASCS-sponsored project to replace the present inefficient ditch system with a pipeline and convert to sprinkler irrigation. The irrigation rights on Hells Canyon Creek are summarized in Table 1. The one active ditch will be replaced with an approximate 1.5-mile-long gravity pipeline, sized (10-inch diameter) to carry about 2.2 cfs of water. To gain head, the point of diversion will be moved approximately 1,500 feet upstream. The pipeline will initially follow the course of the now inactive Humphrey ditch. In addition, a separate 4-inch-

diameter pipeline about 1,500 feet in length and carrying about 0.36 cfs of water, will be laid adjacent to the 10-inch-line to serve the needs of Pat Humphrey. Both pipes will use the new point of diversion.

During off-irrigation periods, water from the 10-inch-line will be shunted to the now active ditch to water cottonwoods that presently line the ditch's banks. The headgate now serving this ditch will be closed for the life of the project.

Another objective of this project is to reduce or eliminate the significant problem of fish loss to the irrigation system. A self-cleaning, screened intake will be installed at the point of diversion to address this issue.

A maximum of $45,000 is DFWP's anticipated share of the approximate $90,000 project. Water leasing will amount to $1,250 per year over the 20-year lease period allowed by law. Thus, a total of $25,000 will be attributed to water leasing. The remaining $20,000 committed by DFWP will be used to purchase materials not eligible for ASCS cost sharing. In return, the fishery will benefit from the following:

1. A self-cleaning, screened intake structure will be constructed for the new pipeline to prevent loss of out-migrant fry and adult trout;

2. the diversion currently in use will be deactivated for the life the project, thereby preventing loss of trout;

3. salvaged water of the three water users will be leased to DFWP for 20 years at no additional cost; and

4. the users guarantee that the following minimum flows will bypass the new pipeline diversion:

Time Period	Guaranteed Minimum (CFS)
April 1-July 15	1.60
July 16-November 4	0.25

Although DFWP and the three water users have reached an agreement on this water lease. the lease cannot be implemented until a Change in Appropriation Water Right Application is approved by DNRC. Any water users who feel they would be affected by this water lease have an opportunity to object to this change application. The lease cannot be implemented until all objections have been resolved if, in fact, objections are received. Since the new pipeline consolidates all water users into a single irrigation system, it is unlikely that objections will be received. The 20-year lease period will begin on the date the Change of Use Application is approved by DNRC.

IV. Environmental Impact Checklist

See attached checklist.

V. Explanation of Minor Impacts to the Physical Environment

1. Terrestrial and Aquatic Life and Habitat

Project construction will result in a temporary disturbance of small portions of terrestrial and aquatic habitats in the area. Revegetating disturbed areas using native species, in addition to erosion and weed control will be incorporated into construction plans. Long-term benefits to aquatic life in Hells Canyon Creek are expected to exceed the minor, short-term impacts of project construction.

2. Water Quality, Quantity and Distribution

Channel disturbance during construction of the water intake structure will cause a short-term increase in turbidity. This will be minimized by timing construction activities during low water levels. Activities will be permitted through the Natural Streambed and Land Preservation Act administered by the Ruby Valley Conservation District.

Because a smaller amount of Hells Canyon Creek water will be diverted for irrigation due to the increased efficiency of the new system, there may be a slight change in the return flow quantity or pattern. In addition, seepage loss from the current system will essentially be eliminated by the pipeline. It is unknown what this change would be, and it would not be possible to determine without a detailed study of the stream's hydrology. However, affects will probably be minor if any occur at all due to the close proximity of the current irrigation system to the mouth of Hells Canyon Creek.

Likewise, effects on water quality are expected to be minimal. However, if there is a change in water quality (eg. nutrient loading, water temperature, suspended sediment, etc.) in Hells Canyon Creek, the change should result in a slight improvement.

3. Geology and Soil Quality and Stability

A limited amount of soil and vegetation disturbance adjacent to the project area will be caused by providing equipment access to the site and burying the proposed pipeline. This disturbance will be mitigated by revegetating disturbed areas using native species.

4. Vegetation Cover

Same as 3.

5. Aesthetics

Aesthetics in the area may be degraded during, and soon after, construction of the pipeline. Within a few months after construction and replanting of native vegetation, all signs of construction are expected to disappear, and the site will revert to its former state.

VI. Explanation of Minor Impacts on Human Environment

7. Agricultural or industrial production

Under the lease agreement, all water users on Hells Canyon Creek will be consolidated into a single water delivery system consisting of two pipelines and a common diversion structure. This may require some adjustments in the traditional uses of the available water. However, any disadvantages will likely be offset by the efficiency of the gravity pipeline system. Agricultural production will be maintained or increased by replacing flood irrigation with a pipeline system.

VII. Discussion and Evaluation of Reasonable Alternatives

1. The No Action Alternative

If the proposed pipeline project is not constructed and water is not leased on Hells Canyon Creek, the following are likely to occur:

- A significant percentage of trout fry produced in Hells Canyon Creek, as well as spent spawners enroute back to the Jefferson River, will continue to be lost to the irrigation system.
- Stream flow downstream of the proposed pipeline will not be enhanced for trout rearing in Hells Canyon Creek and the potential for complete dewatering of the stream during drought years will continue to exist.
- The opportunity to increase the rainbow trout population of the Jefferson River through improving reproductive success in Hells Canyon Creek will not occur.
- The opportunity for landowners, ASCS and DFWP to demonstrate the effectiveness of this type of project under the River Restoration and Water Leasing Programs will not be realized.

2. The Proposed Alternative

Water leasing and the use of River Restoration funds in Hells Canyon Creek is an effort to decrease or eliminate fish loss to an irrigation canal and to improve summer flows in the lower 0.5 miles of stream. This will be accomplished by replacing the current irrigation canal with a gravity pipeline and a screened intake structure. In addition to providing fishery benefits for the Jefferson River, this project can serve to demonstrate that it is possible to enhance both agricultural production and fish

production by improving the efficiency of the irrigation system. If successful, the project will demonstrate a means to maintain populations of wild, naturally-reared trout in the Jefferson River without supplementing the population with hatchery-reared fish.

VIII. Environmental Assessment Conclusion Section

1. Is an EIS required? No

This review demonstrates that the planned activities will likely have positive impacts on the physical and human environment. Any short-term impacts caused by construction will be more than offset by the long-term benefits.

2. Level of public involvement.

Copies of the EA were sent to the Ruby Valley Conservation District, Department of Natural Resources and Conservation, Allen and Diane Carroll, Doug Allen, Pat Humphrey, George Grant Chapter of Trout Unlimited, Jefferson Headwaters Chapter of Trout Unlimited, Jefferson Valley Sportsmen Association.

3. Duration of Comment Period.

Public comment will be accepted through January 2~~1~~8, 1993.

4. Person Responsible for preparing the EA document.

Ron Spoon
Fisheries Biologist
Department of Fish, Wildlife and Parks
P.O. Box 1137
Townsend, MT 59644

Table 1. Irrigation rights on Hells Canyon Creek after modification by the Water Court.

OWNER	CLAIM	FLOW RATE (CFS)	PRIORITY	POINT OF DIVERSION IN T2S, R6W	PERIOD OF USE
Alan Carroll	196995[1]	3.64	12/31/1884	NW, SE, NW, Sec. 34	4/1-11/4
Douglas Allen	197171[1]	2.66	8/23/1889	NW, SE, NW, Sec. 34	4/28-10/19
Douglas Allen	197170	.21	8/29/1912	SW, SW, SW, Sec. 27 and NW, NE, NW, Sec. 34	4/28-10/19
Pat Humphrey	025646	1.00	8/29/1912	NW, Sec. 34	5/1-10/31

1. Water rights sharing the one active diversion.